Price, Principle, and the Environment

MARK SAGOFF

University of Maryland



PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE

The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS

The Edinburgh Building, Cambridge CB2 2RU, UK 40 West 20th Street, New York, NY 10011-4211, USA 477 Williamstown Road, Port Melbourne, VIC 3207, Australia Ruiz de Alarcón 13, 28014 Madrid, Spain Dock House. The Waterfront, Cape Town 8001, South Africa

http://www.cambridge.org

© Mark Sagoff 2004

This book is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2004

Printed in the United States of America

Typeface ITC New Baskerville 10/13.5 pt. System LATEX 2E [TB]

A catalog record for this book is available from the British Library.

Library of Congress Cataloging in Publication data

Sagoff, Mark.

Price, principle, and the environment / by Mark Sagoff. p. cm.

Includes bibliographical references and index.

ISBN 0-521-83723-5 – ISBN 0-521-54596-X (pb.)

1. Environmental economics. 2. Environmental policy. 1. Title.

HC79.E5S222 2004 333.7–dc22 2004043560

ISBN 0 521 83723 5 hardback ISBN 0 521 54596 x paperback

Contents

knowledgments	page ix
Zuckerman's Dilemma: An Introduction	1
At the Monument to General Meade or On the	
Difference between Beliefs and Benefits	29
Should Preferences Count?	57
Value in Use and in Exchange or What Does	
Willingness to Pay Measure?	80
The Philosophical Common Sense of Pollution	101
On the Value of Wild Ecosystems	126
Carrying Capacity and Ecological Economics	154
Cows Are Better Than Condos or How Economists	
Help Solve Environmental Problems	177
The View from Quincy Library or Civic Engagement	
in Environmental Problem Solving	201
tes	233
lex	281
	Zuckerman's Dilemma: An Introduction At the Monument to General Meade or On the Difference between Beliefs and Benefits Should Preferences Count? Value in Use and in Exchange or What Does Willingness to Pay Measure? The Philosophical Common Sense of Pollution On the Value of Wild Ecosystems Carrying Capacity and Ecological Economics Cows Are Better Than Condos or How Economists Help Solve Environmental Problems The View from Quincy Library or Civic Engagement in Environmental Problem Solving

Zuckerman's Dilemma

An Introduction

Many of us recall from childhood – or from reading to our own children – E. B. White's story of the spider Charlotte and her campaign to save Wilbur, a barnyard pig.¹ Charlotte wove webs above Wilbur's sty proclaiming the pig's virtues in words – "TERRIFIC," "RADIANT," and "HUMBLE" – she copied from newspaper advertisements salvaged by a rat named Templeton. Wilbur, Charlotte wrote in her web, was "some pig." He won a prize at the fair. Moved by these events, Zuckerman, the farmer who owned Wilbur, did not slaughter the pig for Christmas dinner. Charlotte saved Wilbur's life.

"Why did you do all this for me?" the pig asks at the end of *Charlotte's Web.* "I don't deserve it. I've never done anything for you."

"You have been my friend," Charlotte replied. "That in itself is a tremendous thing. I wove my webs for you because I liked you. After all, what's a life, anyway? We're born, we live a little while, we die. A spider's life can't help being something of a mess, what with all this trapping and eating flies. By helping you, perhaps I was trying to lift up my life a little. Heaven knows, anyone's life can stand a little of that."

Three Kinds of Judgments

In the following chapters, I want to call attention to a distinction between three kinds of judgments. First, we make judgments as individuals about what is good for or benefits us. For example, Charlotte could tell which flies were the tastiest, and she trapped those she wanted

1

the most. Wilbur wondered, in this context, why Charlotte chose to save his life, since he could do nothing to benefit her or make her better off.

Second, we form judgments about what is good in general, right as a matter of principle, or appropriate in view of a particular situation. Charlotte thought it morally better that Wilbur live out his life in peace than show up with an apple in his mouth at Christmas. She valued Wilbur's friendship as a good thing in itself, and she recognized the obligations and responsibilities friendship creates.

Third, we make aesthetic judgments about what is beautiful or is worth appreciating and protecting for its expressive, symbolic, and formal properties. In describing Wilbur as "some pig" and in other ways lauding his aesthetic qualities (his intelligence was not much to speak of), Charlotte convinced Zuckerman to spare Wilbur for his intrinsic qualities rather than to slaughter him to provide ham for Christmas dinner.

Judgments of the first kind – those we make in view of our own well-being – answer the question, "What is good for me?" Judgments of the second and third kinds – moral and aesthetic judgments – answer questions such as, "What is good or right in view of the situation?" and "What is wonderful or beautiful because of its intrinsic properties?" These kinds of questions turn not on judgments about what is good for the individual but on judgments about what is good in general, good from the perspective of the larger community, or good in itself.

Charlotte formed moral and aesthetic judgments about almost everything except flies. She apparently cared about flies solely on the basis of the good they did her. She dealt with most other creatures, such as Wilbur, with respect and appreciation. Her idea of what is valuable went far beyond what she thought enhanced her well-being.

In this book, I shall assume – and sometimes argue – that there is an important difference between saying that something is *good for me* and saying that something is *good in itself, good from the point of view of the world in general*, or *good because of its intrinsic qualities*. I shall take it as a premise that in our political lives we do not pursue merely private conceptions of *the good life* but also public conceptions of *the good society*. We are not concerned only about the way a social decision or outcome affects us. We are also concerned with whether the decision or outcome is right,

fair, or good in view of values or reasons we believe carry weight with society as a whole.

We can assume that the individual is the best or the most legitimate authority, except in special cases, about what is good for her or him.³ I do not challenge, then, the assumption of welfare economics "that individuals understand fully how various situations affect their well-being and that there is no basis for anyone to question their conception of what is good for them."⁴ Judgments about what is good in itself or good from the perspective of a larger social community, in contrast, depend on deliberative political processes that reflect the force of the better argument. Some may believe that a society that maximizes utility – whatever that means – has found the right direction. Others may support opposing principles, for example, that society ought to pursue justice, end discrimination, promote education and the arts, and so on. In this context, society is concerned with resolving contradictions in public opinion, not conflicts of private interest.

Welfare Economics and the Public Interest

A democracy is constantly seized with disputes that reflect disagreements in moral or aesthetic attitudes – differences in conceptions of the public interest. Moral and aesthetic questions in the news include, for example, whether to permit abortion, pursue policies of affirmative action, allow physician-assisted suicide, fund religious groups to provide public services, enable single-sex marriage, assist those with disabilities, engage in preemptive military action, legalize marijuana, condone certain kinds of genetic and reproductive research and technology, support the sciences and arts, and so on. Debates over these questions reflect disagreements about the principles we should respect as a society – not differences about how to achieve an agreed-upon goal, such as welfare-maximization. To be sure, politicians ask if you are better off than before, but they also ask whether as a society we are going in the right direction.

For the welfare economist, society is going in the right direction only if its policies "depend solely on concerns for human welfare."⁵ Human welfare "is presumed to be a function of individuals' wellbeing," which, in turn, is determined by "relying on individuals' existing preferences, as revealed by their behavior."⁶ That social policy

aims at the satisfaction of each and any preference, taken as it comes on a willingness-to-pay (WTP) basis, is the essential thesis of welfare economics and its subdisciplines, including environmental economics. Social policy, on this view, should act as a prophylactic on a free market, correcting it when it fails – as it often does – to allocate resources to those who value them most in the sense that they are willing to pay the most for them. The goal of social policy would be to emulate the outcome of a competitive market, in other words, the goal of economic efficiency.

In fact, society does support the satisfaction of certain kinds of preferences, for example, those that involve educational, religious, eleemosynary, and health-related activities. Society taxes and otherwise discourages other preferences, for example, those that involve smoking, gambling, prostitution, and the use of illicit drugs. A libertarian typically argues that the government should give people the widest freedom to satisfy their own preferences, whatever they may be, as long as they respect the rights and freedoms of others. This does not imply, however, that the satisfaction of preference is the business of the government. The libertarian sees nothing but trouble in the power of bureaucracies to second-guess market outcomes in the name of economic efficiency.

Consider, for example, Janis Joplin's famous prayer, "Lord, won't you buy me a Mercedes Benz?" Perhaps the good Lord feels a responsibility to satisfy this preference, but why should the government? Having a preference gives the individual a reason to try to satisfy it, and he or she should be free to do so under rules that are convenient, efficient, and fair. This does not explain, however, why social policy has the task of satisfying preferences ranked by WTP and taken as they come.

Economists should say why society should make preferencesatisfaction a goal. To refer to "welfare" or "well-being" is not to answer but to dodge this question, if these terms refer to nothing and mean nothing at all other than "preference-satisfaction."

Microeconomists, as we shall see, propose that WTP – rather than argument, deliberation, or reflection – can adjudicate questions of environmental and other social policy. The use of WTP or utility "to measure preferences can be applied quite generally," three economists explain. "Utility or preference exists for any activity in which choice is involved, although the choices may themselves involve truth, justice,

or beauty, just as easily as the consumption of goods and services."⁷ Louis Kaplow and Steven Shavell, in a recent book, similarly state:

The notion of well-being used in welfare economics is comprehensive in nature. It incorporates in a positive way everything that an individual might value – goods and services that the individual can consume, social and environmental amenities, personally held notions of fulfillment, sympathetic feelings for others, and so on.

According to the welfare-economic approach, I am able to state an objective thesis – rather than express a subjective want – when I say that environmental policies should be assessed exclusively in terms of their effects on the well-being of individuals. If I defend an opposing principle, for example, that we should protect species to honor God's creation, my statement is irrelevant to policy except insofar as it expresses a welfare-related preference. "The hallmark of welfare economics is that policies are assessed exclusively in terms of their effects on the well-being of individuals. Accordingly, whatever is relevant to individuals' well-being is relevant under welfare economics, and whatever is unrelated to individuals' well-being is excluded from consideration under welfare economics."

When Kaplow and Shavell argue that social policy should be assessed solely on its effect on the well-being of individuals, they state a judgment or thesis they expect to be considered and accepted on its merits. They do not believe that this preference about the goal of social policy is to be assessed in terms of how much they are willing to pay for it. What would they say about the views, judgments, arguments, and positions of those moral philosophers, policy analysts, and others who disagree with them? There are two ways welfare economists may respond to these opposing opinions. First, they may regard them as subjective preferences for some "intangible," "soft," or "nonuse" value for which advocates may be willing to pay. Second, if these opinions do not reflect the welfare effects of a given policy, Kaplow and Shavell dismiss them as irrelevant. They state that under welfare economics, "philosophers' or policy analysts' views . . . are irrelevant."

In this book, I shall emphasize the extent to which disagreements about environmental policy arise from differences in principle, that is, differences in the general rules people believe should govern social policy. The principles that underlie and justify environmental law rarely if ever embrace the efficiency norm. For example, pollution

control law, as I shall argue, responds to the widely held principle that people should be free from unwarranted coercion. I shall propose, in any case, that society regulates pollution as a kind of trespass or tort – a sort of assault – not as a market externality or social cost. If some pollution has to be permitted to keep the economy running, it should be tolerated as a necessary evil, not welcomed as a welfare-enhancing utilization of resources.

Environmental law expresses a respect for nature as well as for persons. In one survey, 87 percent of the public agreed with the statement, "Our obligation to preserve nature isn't just a responsibility to other people but to the environment itself." Biologist Michael Soule has stated that the "most fundamental postulate" that motivates scientists like himself is that "biotic diversity has intrinsic value," irrespective of its instrumental or economic worth. Other biologists have argued that a "quasi-religious" view of the value of the environment impels them to revere and therefore to study the natural world. In emphasizing the intrinsic value of biodiversity, these biologists do not implicitly accept but explicitly reject well-being – whatever that concept means – as the principal desideratum of endangered species policy. Views such as these have to be considered on their merits, not dismissed as irrelevant or treated as indicators of utility.

Demands people make to benefit themselves, such as consumer demands, conflict in the economic sense that there are not resources enough to satisfy all of them. Differences in what we believe we care about as a society present contradictions that would remain even if resources were infinite. For example, people would disagree about the morality of capital punishment even if there were plenty of rope to hang everybody. Sorting out by deliberation our moral intentions, aesthetic judgments, and spiritual commitments as a society is basic to making environmental policy. The satisfaction of preferences per se – "all this trapping and eating flies" – is hardly the principal purpose or policy goal of a civilized society.

Value in Use and in Exchange

Although I want to emphasize the importance of ethical and aesthetic judgments in justifying environmental policy, I do not mean to dismiss consumer preferences, that is, preferences that reflect what the

individual believes is good for her or him. I will emphasize, however, that value of this kind – economic value – can be construed in two quite different senses. For example, Zuckerman understood that Wilbur could serve him either by providing the Christmas ham or by fetching a good price at the marketplace. In this book, I shall conceive of economic value in these two ways. A good can be valuable economically for the benefit it provides or because of the money it fetches in a market.

Adam Smith explained the concept of economic value in terms of these two different meanings – either "the utility of some particular object" or "the power of purchasing other goods which the possession of that object conveys." Smith called the first sort of value – the benefit or utility an object provides – "value in use." He called the buying power associated with owning an object – its price – "value in exchange." ¹²

In this book, I shall argue that value in exchange (price) can be observed in a way that value in use (benefit) cannot. To find the price of a Christmas ham, one checks the advertisements. How can an economist measure the benefit a Christmas ham provides? I shall contend that economic "valuation" (as it is called) cannot venture much beyond price or value in exchange. Economists have no plausible way to measure – or to adjudicate conflicts that arise between attempts to measure – value in use or benefit.

Adam Smith thought that economic science does not and cannot measure benefit or value in use but focuses on the "principles which regulate the exchangeable value of commodities." ¹³ Economists may analyze the conditions that account for exchange or "marginal" value, in other words, the prices buyers of the next units of a good pay sellers who compete for their business. This amount – the price of a good – is set largely by competition on the supply side and thus may not tell us much about consumer benefit. I shall argue (as Smith does) that economic science may help us to understand the conditions that determine value in exchange, but it cannot measure the benefit, value in use, or the utility an object provides.

One of the principal goals of environmental economics today – an effort that receives large amounts of public research support – is to measure the benefits of environmental improvements. This book argues that research aimed at measuring value in use rather than value in exchange should not be attempted because it cannot succeed.

In subsequent chapters I shall argue, moreover, that terms fundamental to the theory of environmental economics, such as "benefit," "preference," and "willingness to pay," refer to conceptual constructs that – unlike market prices – cannot be observed or measured. These terms have no meaning or referent outside of the tautological and circular formulas of the theory of welfare economics. To be sure, the prices people actually pay for goods can be observed and measured. If competition drives these prices down to producer costs, as is often the case, these prices do not measure consumer benefits.

We observe that people in general pay and seek to pay the lowest prices they can conveniently find. These prices vary with market conditions, especially production costs, and offer no reliable basis for assessing the utility or benefit goods provide. People are said to be "willing to pay" – whatever that means – an amount equal to the benefit or utility they expect a good to provide. The thesis that goods should be allocated to those willing to pay the most for them because this maximizes welfare – when WTP is the measure of welfare – is then tautologically true. This principle draws as perfect a circle on earth as can be found in Heaven.

I shall argue that the immense effort economists have invested over decades in trying to measure the benefits of environmental resources and services has resulted and can result only in confusion. This book will argue that there is no need to measure environmental benefits anyway. Insofar as the goals of environmental policy can be construed in economic terms, cost-benefit analysis could arguably be helpful. Cost-benefit analysis, however, relies on market (or "shadow" market) prices, not maximum WTP. The kind of maximum WTP that is stipulated to be equal to utility is not required for or relevant to cost-benefit analysis, which is defined on market prices.

The Varieties of Goodness

This book describes three ways people find value in the natural environment. First, we *use* nature: it serves our needs and wants. Second, we *respect* nature: it commands our moral attention and loyalty. Third, we *appreciate* nature: it is the object of aesthetic admiration and wonder.

Welfare economics presupposes an instrumental conception of value - that nature is valuable only as a means to the end of well-being, defined as the satisfaction of preferences. The goal of social policy on this view is to raise the level of welfare – or to maximize the social aggregate of utility – as much as resources allow. From this perspective, individuals (other than economists) are not thought to have views, beliefs, or ideas worth considering on the merits. Rather, individuals are seen as locations where preferences – or WTP to satisfy them – can be found.

In *Charlotte's Web*, Templeton embodies the welfarist point of view. He exemplifies the individual who is the best judge of how well off he or she is in a given situation. Ask him to do a favor, and he will ask what you will do for him in return. Near the end of the book, for example, Wilbur needs Templeton's help to save Charlotte's egg-sac. In exchange for climbing a wall to retrieve the sac, the rat exacts a promise from Wilbur to feed him the best morsels from his trough. Templeton supposes that the more he acquires of the things he wants, the happier he becomes; as a result of this assumption, he is always miserable. He does not think of himself as a citizen of a barnyard community, bound by its norms or responsibilities. E. B. White observes, "The rat had no morals, no conscience, no scruples, no decency, no milk of rodent kindness, no compunctions, no higher feeling, no friendliness, no anything." 14

Eban Goodstein, in his textbook on environmental economics, explains that the "consumption of market and nonmarket goods" makes people happy. "The relation between consumption and happiness can be conveniently expressed in the form of a utility function." ¹⁵ Templeton, however, was miserable. The most confirmed hypothesis of social science research may be that money does not buy happiness and that the satisfaction of preference has no relation to perceived well-being, once basic needs are met.

The word "satisfaction" in the phrase "the satisfaction of preference" may mean either of two different things. It may mean that a preference is met or fulfilled; in this sense terms, conditions, equations, and predictions may be "satisfied." Second, it may mean that the person who has the preference is content or happy. Satisfaction in the first sense has no known relation to satisfaction in the second sense, once basic needs are met. On the contrary, one should beware of getting what one wishes for. When one has satisfied a preference, one may experience dissatisfaction and disappointment as much as the reverse; as Keats points out in his "Ode on a Grecian Urn," the fun is in the

striving. I shall try to show that normative concepts that occur in welfare economics, such as "welfare," "benefit," "utility," and "willingness to pay," are little more than stand-ins for each other and have no relation to happiness or any other substantive concept of the right or the good.

We need not think of nature simply as a source of welfare. Rather, we respect nature: we treat it with loyalty, affection, even reverence. In an interview, Tom Finger, a Mennonite, expressed the position of many Americans. "We are exterminating God's creatures," he said. "All these nonhuman creatures . . . have a certain intrinsic worth because they are part of God's creation." Mr. Finger believed that if God created a species, that is a reason not to destroy it. A society that respects nature, Mr. Finger may reason, is *better* than a society that does not – even if he and other people are not *better off* in an economic sense. As I shall argue in Chapter 3, people act on norms and principles – and this has to be distinguished from seeking to satisfy preferences. Moral duties and religious affections matter. Well-being, however defined, is hardly the only value or goal or principle that informs environmental policy.

The ethical good directs attention to the object itself, not to the use to which it is put; unlike the instrumental approach, it engenders loyalty, love, and respect. Many of us think of nature as a kind of mother—one at least as fierce as Charlotte was in her way—and therefore we may recognize an obligation to care for whatever is left of it. Affection and loyalty often embrace particular places, the historical characteristics of which people have come to cherish. The love of place is called "topophilia," and the love of nature "biophilia." Wilbur thought his barn was the best place—"this warm delicious cellar, with the garrulous geese, the changing seasons, the heat of the sun, the passage of the swallows, the nearness of rats, the sameness of sheep, the love of spiders, the smell of manure, and the glory of everything." 18

We also *appreciate* nature: we admire its aesthetic properties. We find value in nature as an object of knowledge and perception. This is the aesthetic good. ¹⁹ Aesthetic judgments cannot be reduced to what the individual happens to desire or prefer. Rather, even if people desire or admire an object or action, they should still ask whether it is desirable or admirable. Aesthetic judgments, like moral ones, are open to criticism and correction; in this regard, they have a public dimension. The aphorism "*de gustibus non disputandem*" reminds us

that in many personal matters – for example, the clothes one wears – each person chooses for him- or herself. Yet each judges for all (and therefore must engage with others in a deliberative process to get at consensus) in matters that concern the aesthetic quality and character of the shared or public environment.

The basis of aesthetic value lies in the object itself – in qualities that demand an appreciative response from informed and discriminating observers. Aesthetic judgment requires perception, not preference; it appeals to reasons and insights with which others can agree or differ, not to conceptions of one's own benefit, about which each person may claim to be the final authority. Even if one cannot prove an aesthetic judgment true or false, one can surely inform and educate one's taste. There are better and worse aesthetic judgments, and so making decisions involves deliberation, discussion, and reflection. We often rely on expert judges, panels, and committees to help us decide which environments and objects to preserve because of their intrinsic historical and aesthetic qualities. The judges who awarded Wilbur a prize, for example, saw in him qualities that made him a pig to be appreciated rather than a pig to be consumed.

Noneconomic Value

Objects of ethical and aesthetic judgments do not as such have economic value but moral and aesthetic value; as the eighteenth-century philosopher Immanuel Kant wrote, they have a dignity, not a price.²⁰ These things are said to be good from the perspective of the world or from the perspective of a particular moral community. For example, we think of hallowed places, such as the battleground at Gettysburg, as being important because of what happened there – because of sacrifices that occurred in the past, not benefits that may accrue now or in the future. We may think of some places as being so beautiful or majestic that they are worth preserving for their expressive and symbolic properties and not just for the uses we may make of them or the prices people might pay, for example, to visit them.

We also make moral judgments about the way we treat each other. Charlotte thought that Wilbur deserved respect and concern even though he was a pig. It did not seem right to her that Wilbur should be used simply as a means to the end pigs usually serve or meet. It appears

that we have made a similar judgment as a society that a person – or his or her kidneys, liver, etc. – should not be used as a dumping ground for the effluents and emissions of others. Pollution, in other words, crosses moral boundaries that we have decided to police. Laws that regulate pollution explicitly protect public safety and health; they do not maximize net utility or balance benefits and costs. In a later chapter, I shall examine principles that underlie pollution-control law and discuss some of the problems society faces in implementing those principles.

I shall argue that environmental law serves primarily two purposes: the protection of personal and property rights, especially with regard to pollution, and the preservation of places. Laws controlling pollution serve the first goal; they constrain the risks one person can impose on another. Statutes that pursue the second purpose seek to preserve national forests, landscapes, and landmarks; to protect historical districts; to maintain biodiversity; and to defend the integrity of ecological systems, such as rivers and wetlands.

In the United States, these two statutory goals – the protection of rights and the preservation of places – emerge from two foundational traditions in our political culture. The first draws on the values of property and autonomy; the second, on those of community and diversity. A tradition of libertarianism would protect people from involuntary risks and harms. Pollution-control law may be understood in this context. The second tradition, which we associate with Madisonian republicanism, permits Americans to use the representative and participatory processes of democracy to ask and answer moral questions about the goals of a good society. Americans, most of whom are immigrants or descended from immigrants, find in the natural environment a common history – a *res publica* – that unites them as a nation. Policies that protect the ecological and historical character of the shared environment do not necessarily maximize its economic product, but construct a common heritage.

Just as Charlotte found in Wilbur qualities worthy of admiration and respect, so may we appreciate the intrinsic qualities of the natural world. These qualities appeal to our perception of what is valuable in itself, and they lead to actions that make us better (by lifting up our lives a little) but not necessarily better off.²¹ The decision to protect the natural environment is often a decision to act on the basis of principle,

not in response to preference, and thus to forgo an economic gain. We act through political processes in response to common ethical, aesthetic, or cultural intentions and convictions, though we look for cost-effective ways to pursue them.

This book criticizes the penchant of economic analysis to conflate beliefs with benefits, that is, to assimilate the moral and aesthetic judgments people defend on the merits with the consumer preferences they may pay for at the margin. By misconstruing ethical beliefs as economic benefits – and then elaborating arcane methods to measure these so-called "intangible" values – economic theory tries to "price" moral attitudes and judgments that are inconsistent with its own assumptions. People bring ethical judgments and commitments into political and legal deliberation and negotiation. Rather than recognizing the realm of the political and the possibilities of democracy, economic theory too often describes as market failures it must correct cultural and aesthetic judgments it implicitly rejects. This misconstrues the value of nature by misunderstanding the nature of value.

The Market and Democracy

The market mechanism provides the best framework we know for maximizing the instrumental or economic value of nature. Competitive markets are marvelous institutions for allocating resources, and I have nothing to say against them. I think it is plain, however, that market allocation has to be balanced with political deliberation with respect to social policies that involve moral or aesthetic judgment. This is true, in part, because people who take positions about public policy often have the social good rather than their own good in mind. For example, some people support the death penalty because they believe certain murderers deserve to die. Others denounce capital punishment because it violates the sanctity of life. Whatever you believe, your reasons are likely to have nothing to do with your welfare. The choice society makes will reflect or contradict what you believe is right, but unless you are on death row, it may not affect your well-being.

A distinction between a political compromise and an economic tradeoff may help make this point.²² A political compromise, at least in principle, responds to reasons; an economic tradeoff, in contrast, weighs preferences. Political compromises may be said to be legitimate

insofar as they emerge from democratic processes structured to ensure that all sides get a fair hearing. Economic tradeoffs, in contrast, may take place between strangers who make exchanges in a market. The trick is to tell which environmental problems are to be resolved by a political process and which by a market – and then to design the appropriate process if it does not already exist. Both political and market institutions can be involved. For example, to set a "cap" or ceiling for a pollutant under a cap-and-trade approach, society would rely on political compromise in order to balance the principle of freedom from coercion with the necessity of economic activity. Society might then design a market in which to trade pollution allowances under the cap.

I do not cavil with "free market" environmentalists and others who find that market-based, entrepreneurial, and voluntary activities can help to protect the environment. Rather, I inveigh against welfare economists who reject both markets and political processes as ways to govern the environment. Market failure is so ubiquitous with respect to environmental public goods, they argue, that markets should be viewed more as the cause than as the cure of environmental problems.²³ At the same time, politicians are not to be trusted. "It is the politician's job to compromise or seek advantage," while economists "produce studies that are... as objective as possible."²⁴ One gets the impression that these economists believe society should rely upon them – or their science – rather than upon either markets or political processes to protect the environment.

The point of democratic or political deliberation is not to maximize satisfaction, whatever that means, but to match rules to recognized situations, which is to say, to figure out how to classify a problem and then on what principle society should respond to problems of that kind. The way the problem is defined or categorized often determines how a solution is formulated. One may ask, for example, whether pollution represents a trespass, which would call for one kind of rule, or an external cost of production, which calls for a different kind of regulation. Ethical and aesthetic judgment is as important as economic calculation in formulating and addressing environmental concerns.²⁵

Decision theorist James March summarizes this point as follows. When society allocates resources to maximize the welfare of individuals, it chooses among policies "by evaluating their consequences in terms of prior preferences." To do this, society should either leave

matters to the market, create markets when they are "missing," or, if necessary, try to figure out how a market would allocate the resources in question. The last possibility, which introduces the prospect of cost-benefit analysis, presents a difficulty. We must recognize that when the stakes are high enough, all sides to a controversy will hire their own economists and present dueling or conflicting cost-benefit analyses. In Chapter 8, I shall describe an example of the way environmental and industry groups may commission opposing economic analyses – in other words, how interest groups can obtain the WTP they are willing to pay for. I know of no research that shows how differences of expert opinion in this context can be resolved, although it is reasonable to suppose that the side that hires the most Nobel laureates may eventually win in court.

When society seeks to respond to or act upon its members' opinions, arguments, and principled beliefs, it must turn from economic calculation to political deliberation. It must allow citizens to engage each other in the task of determining the nature of the problem they confront and the rules that they should apply to problems of that sort. A society through negotiation and collaboration identifies itself as a community committed to recognizing individuals as legislators, not simply as consumers. The reasoning process "is one of establishing identities and matching rules to recognized situations." The search for shared intentions constitutes the basis of democracy.

The Wealth of Nature

Throughout history, humanity has prospered by controlling and conquering nature – by turning forests into farms, savannas into cities, seashores into commercial strips. Welfare was served when trees were felled, animals domesticated, and swamps drained. Property values increased when wild areas were developed and in that sense "improved." Developing countries wish to transform their landscapes to the same commercial uses that created great wealth in the developed world. Within the next few decades, we shall decide the fate of many estuaries, forests, species, and other wonderful aspects of the natural environment. Can we with honesty connect human well-being and economic growth with preserving rather than with exploiting these environments?

Consider whales. Two centuries ago, whale oil fetched a high price because people used it in lamps. Whales had instrumental value. Indeed, many of the great New England fortunes were built on whale oil. If you look at the universities of New England, you see institutions founded in large part on investments of the income gained from whaling, logging, and other activities that exploited nature. Was this exploitation of nature – whale stocks depleted and forests denuded – wrong? Why?

What if hunters in the early 1800s had protected whale stocks so that people today could have more oil or blubber? In other words, what if people back then put whales off-limits in order to preserve "natural capital" for future generations? We might have access to marginally more blubber and whale oil. We might not have the great universities, libraries, hospitals, mansions, and other assets that began with the fortunes earned by the whaling industry. Would we be better off as a result?

It made economic sense for New Englanders to harvest the whales and invest the money in the institutions that supported the prosperity of that region. It would have made no economic sense for our ancestors to do more than they did – virtually nothing – to preserve "natural capital" for future generations. In 1820, people could confidently expect that if human beings did not destroy their lives through war, they would no doubt improve their lives through technology. Advances in technology – for example, in food production, antibiotics, dental care – have made people today infinitely better off than their great-grandparents. The bourgeoisie today enjoys a far better standard of living than did the royalty of earlier centuries. We can confidently expect that technology will continue to advance exponentially – so that future generations, if they do not end the human adventure in the holocaust of war, will look back on our lives with pity, as we look back on the miseries of, say, the thirteenth century.

Today, we need whales no more than Charlotte needed pigs. Why, then, do so many people care about saving whales today? Are they concerned about maintaining a strategic reserve of blubber? Do they worry that the seas might fill up with krill? No; as whales have lost their instrumental value, their aesthetic and moral worth have become all the more evident. We respond to moral and to aesthetic judgments in seeking to preserve these great mammals. Their aesthetic

value and moral value have increased as their instrumental value has diminished.

Much is written about nature's free services.²⁸ Yet we have come to depend increasingly on the productive capacity of technology and decreasingly on nature's free and spontaneous largess. Indeed, nature tends to specialize in disservices as much as services – flood, drought, storm, fire, pestilence, heat, cold, and whatever else it takes to kill every living thing, for universal death is nature's only way. The Pilgrims found out how well nature's services support human welfare. According to Governor Winthrop, half of his people died horribly of hunger, cold, and disease during the first winter, and all should have perished had not the native tribes fed them and taught them to raise corn. Today, few economies subsist on nature's free beneficence; lumber is likely to come from high-tech tree plantations, fish from aquaculture. Although technology makes us less dependent on wild nature, it does not lead us to value it less; rather, the value of nature changes from instrumental to aesthetic, ethical, and spiritual. We may therefore regard with dismay the extent to which we have transformed nature for economic or instrumental purposes and thus displaced ourselves from our own natural history.

Whale oil has substitutes in a way that whales do not. The industries that exploit whales have little economic importance. Nevertheless, we know that it would be shameful – not inefficient but blameworthy – to drive these creatures to extinction. Aesthetic and moral value attaches to the animals themselves, not to any benefit they confer on us. The intrinsic value of whales matters to us a lot more than their instrumental value. No one worries about the sustainability of whale oil, but we do care about the survival of whales. As Charlotte knew, the most valuable things are often useless.

Aesthetic Judgments Are Disinterested

Someone may say that aesthetic value counts as a kind of instrumental value because it produces pleasure. On the contrary, as Kant argued, aesthetic perception, even if it occasions a slight and subtle pleasure, is disinterested. That aesthetic perception is disinterested, in other words, is independent of any benefit one may seek, does not mean one is indifferent to it. It means, rather, that aesthetic appreciation